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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/539,351	06/15/2005	Helmar Van Santen	NL 021319	7348

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EXAMINER

MATHEWS, ALAN A

ART UNIT	PAPER NUMBER
2851	

MAIL DATE	DELIVERY MODE
11/15/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)
	10/539,351	VAN SANTEN ET AL.
	Examiner Alan A. Mathews	Art Unit 2851

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on ____.

2a) This action is **FINAL**. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-12 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 1-5 and 7-11 is/are rejected.

7) Claim(s) 6 and 12 is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.

10) The drawing(s) filed on 15 June 1995 is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892) 4) Interview Summary (PTO-413)
2) Notice of Draftsperson's Patent Drawing Review (PTO-948) Paper No(s)/Mail Date. ____ .
3) Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 7/25/07.
5) Notice of Informal Patent Application
6) Other: ____ .

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5), because they do not include the following reference sign(s) mentioned in the description: **lens 55** on lines 11 and 28 of page 8, and **rim portion 93** on line 35 of page 8. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

2. Claims 8 and 9 are objected to because of the following informalities: In claim 8, line 5, there is no proper antecedent basis for “said gap”. In claim 9, line 4, there is no proper antecedent basis for “said recess”. Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-4 and 7-9 are rejected under 35 U.S.C. 102(b) as being anticipated by WO 99/49504 (cited by Applicant in his IDS filed July 25, 2007, with an English translation being provided in the current office action). The International Publication WO 99/49504 discloses in figure 1 and page 12, lines 14-24, and pages 13 and 14 of the translation, directing and focusing a radiation beam to a spot on a layer of wafer by at least one optical element 4. XY stage 10 causes relative movement of the layer on wafer W relative to the optical element 4. Page 13, lines 17-22, discloses the step and repeat method of exposure, so that successively, different portions of the layer on W are irradiated. Figures 1 and 2 further disclose maintaining the interspace between lens 4 and W with a liquid 7. The liquid 7 is supplied by a conduit 21. The outflow opening 21a is considered to be a canal which is open towards the layer on W. The canal distributes the liquid longitudinally along the canal and dispenses distributed liquid toward the layer on W. It is further noted that Applicant has called his own element 167 in figure 4 and on page 13, line 26, of Applicant's specification, a supply canal. With respect to claims 2 and 8, figures 2 and 3 disclose canals 21a, 22a, 27a, and 28a, which have a center in portion of said interspace through which the radiation irradiates the spot. With respect to claims 3 and 9, figure

1 and page 19, lines 18-20 of the translation, disclose that a working distance "d" is set at about 2mm. With respect to claim 4, the space between 4 and W could be considered to be a recess.

5. Claims 1, 4, 5, and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by the Japanese patent document 6-124873 (along with an English translation provided in this office action). The Japanese patent document 6-124873 discloses in figure 1 and paragraph # 0014, # 0015, and # 0016 of the English translation, optical elements 4 and 7 which direct and focus a radiation beam onto a spot on a layer of wafer 2 by at least the optical element 7. Figure 11 and paragraph # 0019 disclose feeding liquid 30 by means of a pump 22 and filter 23 and a supply conduit. The end of the supply conduit is considered to be a canal distributing liquid 30 longitudinally along the canal and dispensing distributed liquid 30 towards the layer. It is further noted that Applicant has called his own element 167 in figure 4 and on page 13, line 26, of Applicant's specification, a supply canal. With respect to claim 4, liquid 30 fills up a recess between the optical element 7 and wafer 2. With respect to claim 5, the container 9 includes a rim.

6. Claims 1-3 and 7-9 are rejected under 35 U.S.C. 102(a) as being anticipated by Van Satan et al. (U. S. Patent Application Publication No. 2002/0020821 A1). Van Satan et al. '821 discloses in figures 2, 3, and 4, and paragraphs # 0032 - # 0036, directing and focusing a radiation beam to a spot 11 on layer 5 by means of optical element 59. Element 39 causes relative movement of the layer 5 relative to optical element 59. Opening 69 is considered to be a canal dispensing liquid toward the layer 5. It is further noted that Applicant has called his own

element 167 in figure 4 and on page 13, line 26, of Applicant's specification, a supply canal. Gap 53 is the interspace. The gap 53 can also be considered to be a recess. With respect to claims 3 and 9, page 3, paragraph # 0016 and # 0017, disclose a gap of 4 μm to 100 μm .

7. Claims 1, 2, 4, 5, 7, 8, 10, and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by the German patent document DD 221 563 A1 (provided with an English translation in this office action). The German patent document DD 221 563 A1 discloses in figures 1 and 3 directing and focusing a radiation beam on a photoresist layer 26 on substrate 25 (or 16) by means of optical element 2. Page 11, lines 18-24, page 16, lines 1-4, page 18, lines 17-24 (of the English translation) and figures 1 and 3 (see the arrow) disclose structure causing relative movement of the layer 26 relative to the optical element 2. An interspace is maintained through which radiation irradiates the layer. The interspace is filled with liquid 4 and 4.1. Elements 17 and 12 are supply conduits having outflow openings (including element 10 which opens towards the layer 26). The outflow openings are considered to be canals. Liquid is supplied longitudinally along the canal. At least opening 10 dispenses liquid towards layer 26. It is noted that at least one definition of canal is a tubular passage, and another definition of a canal is a duct. A recess within device 7 is filled with liquid. With respect to claims 2 and 8, page 14, lines 10-21, disclose arranging multiple openings 10 in a circle. With respect to claims 5 and 11, the device 7 has a rim around the recess 4. With respect to claims 4 and 10, the optical element 2 helps define, in part, the recess.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 4, 5, 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Van Satan et al. (U. S. Patent Application Publication No. 2002/0020821 A1) as applied to claims 1 and 7 above, and further in view of either Takanashi et al. (U.S. Patent 4,480,910, cited in Applicant's PTO-1449) or the Japanese patent document JP 10-255319 (cited in Applicant's IDS, with an English translation provided with this office action). Van Satan et al. '821 discloses the invention except for disclosing a recess. Takanashi et al. discloses in figure 3 and recess and a rim within element 9. The Japanese patent document JP 10-255319 discloses recesses with rims in figures 3 and 5. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to provide Van Satan et al. '821 with a recess and rim in view of Takanashi et al. or the Japanese patent document JP 10-255319 for the purpose of better directing the flow of liquid and thus producing a better final product.

Allowable Subject Matter

10. Claims 6 and 12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

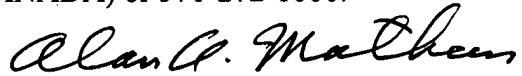
Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The patents cited in the PTO-1449 are cited for the same reasons they were cited in Applicant's IDS.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alan A. Mathews whose telephone number is (571) 272-2123. The examiner can normally be reached on Monday through Friday from 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diane Lee can be reached on (571) 272-2399. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Alan A. Mathews
Primary Examiner
Art Unit 2851

AM